

Message

From: Sharada Maligireddy [smaligireddy@ndep.nv.gov]
Sent: 5/11/2017 3:24:59 PM
To: Whitson, Amelia [Whitson.Amelia@epa.gov]
CC: Nicholas Brothers [nbrothers@ndep.nv.gov]
Subject: RE: draft - factsheet sections - NV0024228

Morning Amelia,

The most recent conversation with Nick was:

He was okay just having them count the pounds for P (as I laid out below). He was the one who corrected me from 100 lb/day to 90 lb/day (the later is not an officially published determination yet, but he had to /was able to borrow 10 pounds from this 100 lb to allocate for some other discharger ☺).

On principle I am still with my original logic, but this is something more practical too (again wrt to the short nature of the project as well as the quantities involved won't hinder the project & impact the Wash negatively. With Ammonia ND, I do not need to bother about ammonia load (but still am going to have them monitor and report) unless the DMRs start showing any presence.).

Let me know what you think.

Thanks for your time.

sharada

From: Whitson, Amelia [mailto:Whitson.Amelia@epa.gov]
Sent: Wednesday, May 10, 2017 5:42 PM
To: Sharada Maligireddy <smaligireddy@ndep.nv.gov>
Cc: Nicholas Brothers <nbrothers@ndep.nv.gov>
Subject: RE: draft - factsheet sections - NV0024228

Hi Sharada,

Thanks for sending me the revised language. I talked with Nick today, and we agreed that to ensure the permit is consistent with the TMDL, that you all will ask the TMDL group for a memo explaining how the TMDL would apply to this discharge (for example, whether the phosphorus and ammonia in the discharge are already accounted for in another LA or WLA and/or otherwise explaining if this discharge does not need to meet an effluent limit in order to be consistent with the TMDL). The fact sheet language should be updated to reflect whatever explanation is contained in the memo.

Hope this helps. Please don't hesitate to let me know if you'd like to discuss further.

Best,

Amelia Whitson
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From: Sharada Maligireddy [mailto:smaligireddy@ndep.nv.gov]
Sent: Wednesday, May 10, 2017 12:55 PM
To: Whitson, Amelia <Whitson.Amelia@epa.gov>
Subject: RE: draft - factsheet sections - NV0024228

*90 lb/day
** 3 to 4 lb/day?

From: Sharada Maligireddy
Sent: Wednesday, May 10, 2017 12:30 PM
To: 'Whitson, Amelia' <Whitson.Amelia@epa.gov>
Subject: draft - factsheet sections - NV0024228

Amelia,

Temporarily giving up on my e-permitting system's limitations to keep the formatting while updating.

Please see below for what will be/should be in the final draft. Please let me know your feedback. I will update the fact sheet and also rearrange parameters across the tables again once I hear back from you.

Discharge Characteristics:

Flow: ≤ 9.94 MGD

Per Permittee's reported Water Quality data as sampled from three monitoring wells WMW6.55S, WMW6.15, and WMW5.58SI from January 2015 & February 2016, in conjunction with the Mass-Balance Approach in translating the end of pipe concentrations, of Total Dissolved Solids (TDS), Manganese (Mn), and Boron (B) concentrations, to end of the pre-approved Ambient Water Quality Monitoring Point are as follows:

Perchlorate: Per the most recent data, as reported by the Permittee, the influent has Perchlorate in the range of 370 micrograms/liter to 1,900 micrograms/liter. The treatment process is designed to achieve Perchlorate removal to ≤ 18 micrograms/liter in the effluent.

TDS: Range from 1,800 mg/l to 4,200 mg/l in the treated influent. The process is not expected to change the TDS. Per mass-balance approach this TDS is not expected to cause exceedance in the water quality standard of 2400 mg/L at the end of approved reference end of mixing zone/ambient water quality monitoring point.

Mn: ≤ 1.72 mg/l in the effluent & ≤ 0.200 mg/l at the downstream Ambient Water Quality monitoring point.

B: ≤ 3.71 mg/l in the effluent & ≤ 0.75 mg/l at the downstream Ambient Water Quality monitoring point.

Nitrate as N: Non Detect (ND) to 8.08 mg/l

Inorganic Nitrogen : Nitrate/Nitrite as N: 0.19 J - 8.2 J with all the reported values between the laboratory method detection limit and the laboratory practical quantitation limit. This may further reduce based on the design chemical reactions in the treatment system.

Oil & Grease: WMW sample result is 6.2 while all the other samples are ND.

TSS: ≤ 135 mg/l in the effluent from the treatment plant.

Total P is in the range of 0.035 J mg/l - 0.077 mg/l

Ammonia as N is Non Detect (ND)

Iron, Chromium (Total and Hexavalent), Total Kjeldahl Nitrogen (TKN), Sulfide and the rest of the toxic materials of concern as applicable for the designated waters are ND.

WQBELs:

WQBELs are set per NAC 445A.1236 & NAC 445A.2158 .

pH & TSS levels at the end of the CWTP per NAC445A.1236 & NAC 445A.2158 to be achieved at the Outfall 003.

Nitrogen Inorganic Total: M&R at the end of CWTP.

TDS, Mn, and B limits (per NAC445A.2158 & NAC445A.1236) to be achieved at the approved end of the mixing zone (AWQMP-Outfall 004).

Permit Rationale:

Effluent Water Quality Standards are set primarily with reference to NAC445A.1236 & NAC 445A.2158 as applicable at the boundary of the approved end of mixing-zone for the discharge from the facility.

The influent is characterized as chiefly consisting of existing surface waters and a smaller portion of shallow groundwater of the Las Vegas Wash located down gradient to BMI complex. NDEP-BISC estimated reach time for the shallow groundwater portion of the influent is few hours to a maximum of few days hence the discharge from the facility shall constitute as a nonpoint source.

Ammonia: Ammonia is currently ND in the influent, hence no waste load allocations(WLA) need to be made at this time. However, there is a slight chance this may change depending on the concentrations of ammonium in the influent and the changes in pH, if any, due to the IX chemical reactions. Collecting ammonia as M&R will help the general water quality improvement goals of NDEP for the Wash.

Total Phosphorous(P): Las Vegas Wash has total phosphorous nonpoint source load allocation of 100 lb/day. From the estimates based on the influent data, the facility might contribute about 3lb/day when operating at the full treatment capacity. As such, M&R of Total P for the WLA period of March 1 to October 31 is sufficient and has been included in the limit set for the end of the CWTP.

Permittee's outfall will be within a few hundred feet of existing outfalls (American Pacific Corporation, NERT, Titanium Metals Corporation (two outfalls), and City of Henderson (CoH)) to the Wash. Further the existing NERT site for their BMI Complex ((#NV0023060) has an approved, per NAC 445A.295-302, end of mixing zone point to be monitored, on the basis of tracer-dye study. The Permittee requested to incorporate same location, 5.5 miles upstream of the confluence of the Las Vegas Wash with Lake Mead, as the end of the mixing-zone. The distance between the discharge point to the point of this flow homogenization point is about 4000 feet, and given the discharge volume is about 4 times compared to the discharges from the NERT site, makes this reference point a conservative approach. Request to be approved as reference end of the mixing zone or downstream Ambient Water Quality Monitoring Point (AWQMP) has been accepted.

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Ammonia: Ammonia is ND in the influent, hence no waste load allocations (WLA) need to be made at this time. However, there is a slight chance this may change depending on the concentrations of ammonium in the influent and the changes in pH, if any, due to the IX chemical reactions. Collecting ammonia as M&R will help the general water quality improvement goals of NDEP for the Wash.

Total Phosphorous(P): Las Vegas Wash has total phosphorous nonpoint source load allocation of 90 lb/day. From the estimates based on the influent data, the facility might contribute about 3lb/day when operating at the full treatment capacity. As such, M&R of Total P during the TMDL applicable period of March 1st to October 31 is sufficient and has been included in the limit set for the end of the CWTP.

Permittee's outfall will be within a few hundred feet of existing outfalls (American Pacific Corporation, NERT, Titanium Metals Corporation (two outfalls), and City of Henderson (CoH)) to the Wash. Further the existing NERT site for their BMI Complex ((#NV0023060) has an approved, per NAC 445A.295-302, end of mixing zone point to be monitored, on the basis of tracer-dye study. The Permittee requested to incorporate same location, 5.5 miles upstream of the confluence of the Las Vegas Wash with Lake Mead, as the end of the mixing-zone. The distance between the discharge point to the point of this homogenization point is about 4000 feet, and given the discharge volumes is about 4 times compared to the discharges from the NERT site, makes this reference point a conservative approach. Request to be approved as reference end of the mixing zone or downstream Ambient Water Quality Monitoring Point (AWQMP) has been accepted.

TDS,Mn, and B: TDS, Mn, and Boron in the shallow groundwater of the Las Vegas Wash in the general area are the only potential constituents of concern in the effluent per the sampling done using the three monitoring wells (WMW6.55S,WMW6.15S, and WMW5.58SI) and other available data. The Permittee used the 7Q10 approach for identifying the critical low flows for the Wash and either maximum reported concentrations when available or maximum permit limits as critical concentrations for TDS, Mn, and B. The Permittee's request for end of the pipe limits based on estimates arrived at by the mass-balance approach and data as collected from the existing monitoring well sampling as well as last ten years data from the co-dischargers to the reference stretch of the Wash is statistically significant and appropriate; hence are accepted as requested with an expectation for the Permittee to continue to meet the reference water quality standards per NAC 445A.1236 and RMHQ & water quality standards for beneficial uses per NAC 445A.2158 at the AWQMP. The limits for Mn & B at the outfall 003 are set per the approved mass-balance calculations.

TDS: Per the approved mass-balance calculations, a TDS limit of 15,968 mg/l in the effluent is expected to meet RMHQ limit for TDS \leq 2400 mg/l at the AWQMP per NAC 445A.2158. However, the maximum recorded TDS in the reference data is less than 4,500 mg/l. As such M&R for TDS is more appropriate than setting the three times higher 15,968 mg/l limit from the mass-balance as numerical limit.

TSS & pH: TSS & pH at outfall 003 are limited pursuant to NAC 445A.2158.

Perchlorate: Per the Finding & Order Requiring Engineering Evaluation & Analysis dated April 12, 2016, NDEP-BISC identified and established limits for the potential for accelerated discharge of perchlorate from BMI complex, an adjoining Perchlorate Plume site, to the Wash as a result of proposed dewatering activities associated with the Sunrise Mountain & Historic Lateral Weir Construction. As such, the Permittee's Pump & Treat project goal is to fulfill the obligation to contain and treat the potential accelerated discharge of

Perchlorate to the Wash, prior to releasing the effluent back into the Wash to below 18 micrograms/l. Per this Order, NERT is also under obligation to be ready to receive and treat the influent from dewatering activities by June 1, 2017. The perchlorate limit ≤ 18 micrograms reflects the primary project goal.

Total Inorganic Nitrogen: RMHQ of Inorganic Nitrogen per NAC 445A.2158 is 17 mg/l. With the very low influent numbers as well as likely reduction in the concentration per the resin chemistry/reactions through treatment process, the M&R for Inorganic Nitrogen at the end of the CWTP is sufficient.

Priority Pollutants: The project's maximum scheduled project time is 18 months, and current data has no priority pollutants that need immediate attention. As such customary annual M&R is not needed.

Monitoring Frequency: The biweekly monitoring frequency is chosen to be able to monitor the effluent through each batch of the IX resin and Membrane filter use. The monitoring frequency of monthly when discharging for the AWQMP is deemed sufficient to identify any unexpected exceedances so they can be addressed promptly.

Thanks



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